Manage AWX Inventories

Let's get started: The first thing we need is an inventory of your RHEL 3 hosts you are using in this training. This is the equivalent of an inventory file in Ansible Engine. There is a lot more to it (like dynamic inventories) but let's start with the basics.

1- Create the inventory:

- In the web UI menu on the left side, go to **RESOURCES** → **Inventories**, click the *plus* button on the right side and choose **Inventory**.
- **NAME**: Workshop Inventory
- **ORGANIZATION**: Default
- Click SAVE

Go back to the **Inventories** list, your new **Workshop Inventory** should show up. Open the **Workshop Inventory** and click the **HOSTS** button, the list will be empty since we have not added any hosts yet.

As mentioned in the intro you have three managed hosts in your lab environment,
Let's suppose that the nodes are named node1, node2 and node3.

Add the hosts to the inventory in AWX:

- In the inventory view of the AWX web UI click on your Workshop Inventory
- Click on the **HOSTS** button (the one at the top, not the bottom one, which is read-only and shows all hosts in all inventories)
- To the right click the plus button.
- **HOST NAME**: node1
- Click **SAVE**
- Go back to **HOSTS** or use the frame below the new node frame in the UI and repeat to add **node2** as a second and **node3** as a third node.

You have now created an inventory with three managed hosts.

2- Machine Credentials

AWX's capacity to mask credentials while keeping them accessible to users is a key feature. This functionality allows AWX to run jobs on remote hosts without exposing sensitive connection information.
One of AWX 's most important features is the ability to define credentials separately from hosts or inventory settings. This is called Credential Separation.

Let's first make sure that connecting to the managed nodes from AWX (awx-task container) is working in the first place?

Configure Machine Credentials

Now we will configure the credentials to access our managed hosts from AWX. In the RESOURCES menu choose Credentials :

Click the plus button to add new credentials

- **NAME**: Workshop Credentials
- **ORGANIZATION**: Click on the magnifying glass, pick Default and click SELECT
- **CREDENTIAL TYPE**: Click on the magnifying glass, pick Machine as type and click SELECT (you will have to use the search or cycle through the types to find it).
- **USERNAME**: labadm (feel free to adjust this as needed)
- **PRIVILEGE ESCALATION METHOD**: sudo

As we are using SSH key authentication, you have to provide an SSH private key that can be used to access the hosts. You could also configure password authentication here.

- Inside a terminal in AWX (awx-task container), cat the SSH private key.

- Copy the complete private key (including “BEGIN” and “END” lines) and paste it into the SSH PRIVATE KEY field in the web UI.
- Click SAVE

Go back to the **RESOURCES** -> **Credentials** -> **Workshop Credentials** and note that the SSH key is not visible.

You have now setup credentials for Ansible to access your managed hosts.

3- Run Ad Hoc Commands

You can run ad hoc commands from AWX as well.

- In the web UI go to **RESOURCES** → **Inventories** → **Workshop Inventory**
- Click the **HOSTS** button to change into the hosts view and select the three hosts by checking the boxes to the left of the host entries.
- Click **RUN COMMANDS**. In the next screen you have to specify the ad hoc command:

- As **MODULE** choose **ping**
- For **MACHINE CREDENTIAL** click the magnifying glass icon and select **Workshop Credentials**.
- Click **LAUNCH**, and watch the output.

The command module can be used to execute ad hoc commands; for example, it can be used to find the user ID of the user who is currently executing a command. Unlike the simple ping module, other modules require that you provide the command to run as an argument.

- **MODULE**: command
- **ARGUMENTS**: id

LEt’s try to get some more private information from the system?
Try to print out **/etc/shadow**.

- **MODULE**: command
- **ARGUMENTS**: cat /etc/shadow

To ensure success, re-run the previous ad hoc command, making sure to select the **"ENABLE PRIVILEGE ESCALATION"** option this time. This is the same as the **become: yes** in your Ansible Playbooks.

4- Utilising the awx-manage command

The **awx-manage** command comes in handy; especially when you need to import several machines at a time.

- Connect to the docker container - **awx_task** (note this is the default name of the container used during the initial setup of AWX).
- Create a source hosts file,e.g. **/var/tmp/ansible_hosts**
- Enter the list of IP-Addresses or Hostname’s (ensuring these can be resolved) of the target machines you wish to import
- Then invoke the following command:

  ```
  $ awx-manage inventory_import --inventory-name ${name of inventory} --source ${full_path_to_hosts_file}
  ```